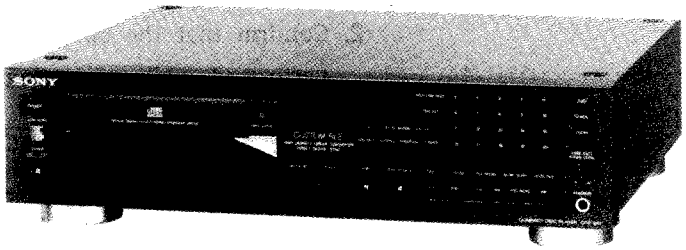
CDP-991

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model



Model Name Using Similar Mechanism	CDP-391
CD Mechanism Name	CDM14-5BD1
Base Unit Name	BU-5BD1

SPECIFICATIONS

Compact disc player

Frequency response	2 Hz – 20 kHz ±0.3 dB
Signal to noise ratio	More than 113 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.0025%
Channel separation	More than 105 dB

Outputs

LINE OUT (FIXED) (phono jacks)	Output level 2V (at 50 kiloohms) Load impedance over 10 kiloohms
LINE OUT (VARIABLE) (phone jacks)	Output level max. 2V (at 50 kiloohms) Load impedance over 50 kiloohms
DIGITAL OUT (OPTICAL) (optical output connector)	Wave length 660 nm Output level –18 dBm
HEADPHONES (Stereo phone jack)	Output level max. 28 mW Load impedance 32 ohms

General

Power requirements	AEP MODEL 220 – 230 V AC, 50/60 Hz UK, Australian MODEL 240 V AC, 50/60 Hz US, Canadian MODEL 120 V AC, 60 Hz E MODEL 110 – 120 or 220 – 240 V AC adjustable, 50/60 Hz
Power consumption	17 W
Dimensions (approx., including projections)	430×110×340 mm (w/h/d) (17×4 3/8×13 3/5 inches)
Weight (approx.)	4.5 kg (9 lbs 15 oz)

Remote commander

Remote control system	Infrared control
Power requirements	3 V DC with two batteries size AA (IEC designation R6)
Dimensions	62×18×175 mm (w/h/d) (2 1/2×23/32×7 inches)
Weight	130 g (4.6 oz) Including batteries

Supplied accessories

Connecting cord	1 (2 phono plugs ↔ 2 phono plugs)
Remote commander	1
R6 (size AA) batteries	2

Design and specifications subject to change without notice.

MICROFILM

COMPACT DISC PLAYER

SONY®

MC-Service

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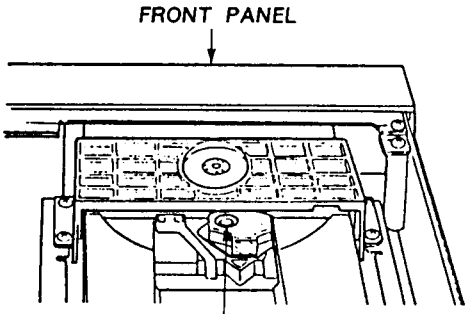
– SERVICING NOTE –

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and disc table closed.
2. Confirm that the operation indicated in Fig. A is performed while observing the objective lens.

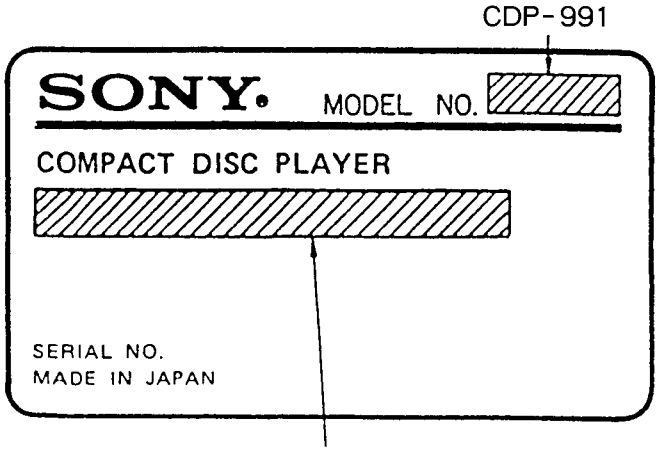


① *Confirm that laser beam is spread.*
② *Up and down motion of the objective lens. (3 times)*

Fig. A

MODEL IDENTIFICATION

– Specification Labels –



US, Canadian Models : AC : 120V 60Hz 17W
AEP Model : AC : 220V – 230V ∿ 50/60Hz 17W
UK, Australian Models : AC : 240V ∿ 50/60Hz 17W
E Model : AC : 110 – 120, 220 – 240V ∿ 50/60Hz 17W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

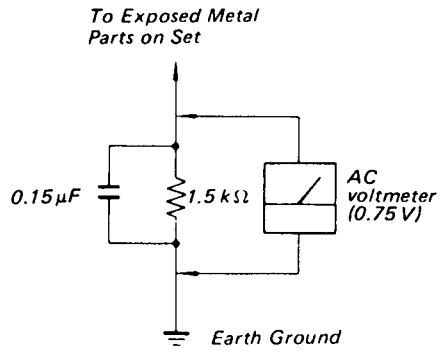


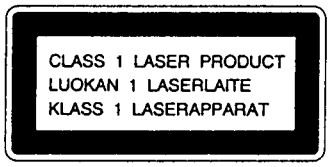
Fig. A. Using an AC voltmeter to check AC leakage.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 25 cm away from the objective lens.

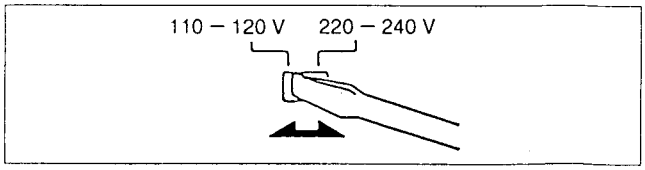


This Compact Disc player is classified as a CLASS 1 LASER Product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

E MODEL

For the customers of the model equipped with the voltage selector

Check that the voltage selector is set to the local power line voltage. If not, set the selector to the correct position before connecting the AC power cord to a wall outlet.

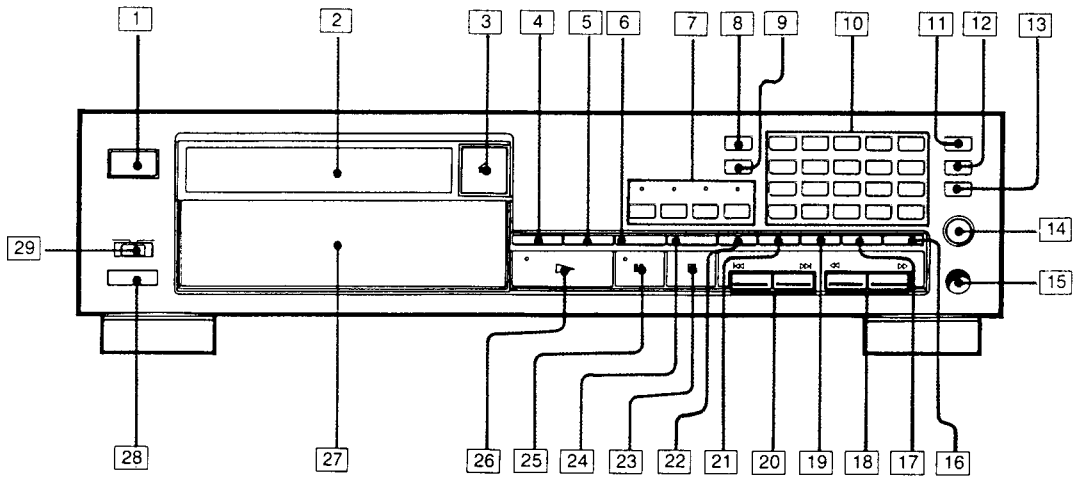


SECTION 1
GENERAL

This section is extracted from instraction manual.

Location of Controls

Front Panel

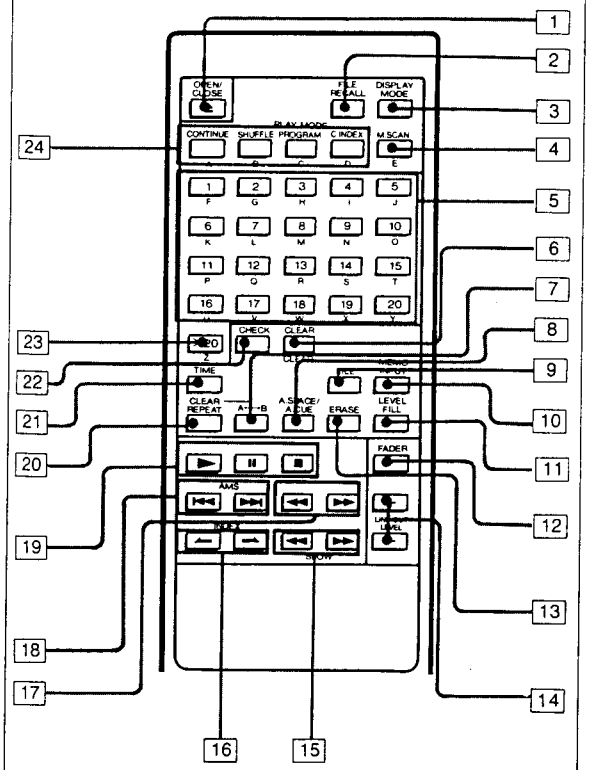


Refer to the pages indicated in ● for details.

1 POWER switch ❽
2 Disc tray
3 ⏏ OPEN/CLOSE button ❽
4 TIME/MEMO button ❾
5 REPEAT button ⓭
6 FADER (fade in/fade out) button ⓫
7 PLAY MODE buttons
CONTINUE button and lamp ⓬
SHUFFLE button and lamp ⓬
PROGRAM button and lamp ⓰
C. (custom) INDEX button and lamp ㉘
8 EDIT/TIME FADE button ⓴
9 TIME SET button ⓴
10 Numeric buttons ⓾
11 > 20 (over 20) button ⓾
12 CHECK (program check) button ⓱
13 CLEAR (program clear) button ⓭, ⓱
14 LINE OUT/PHONE LEVEL control ❺, ❽
15 PHONES jack
16 LEVEL FILE button ㉙
17 MUSIC SCAN button ⓮
18 ◀◀ ▶▶ (manual search) DISC MEMO buttons ⓾
19 FILE RECALL button ㉓
20 |◀◀ ▶▶| AMS* buttons ⓾
21 ERASE (memory erase) button ㉓
22 FILE (custom file) button ㉓
23 ■ (stop) button ❽
24 PEAK SEARCH button ⓬
25 ❚❚ (pause) button ❽
26 ▶ (play) button ❽
27 Display window ❾
28 Remote sensor
29 TIMER switch ㉚

* AMS is the abbreviation of Automatic Music Sensor.

Remote Commander

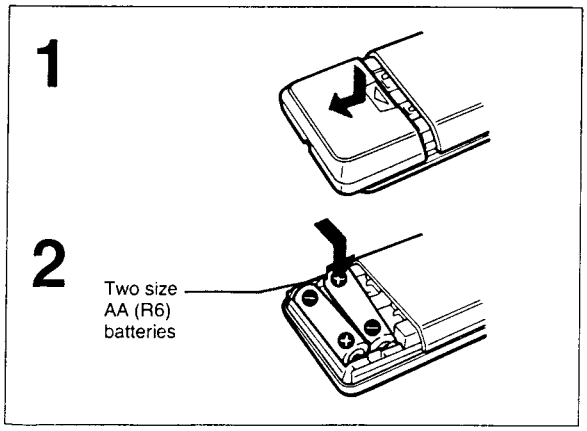


Refer to the pages indicated in ● for details.

1. ⏏ OPEN/CLOSE button ❽
2. FILE RECALL button ㉘
3. DISPLAY MODE button ❾
4. M (music). SCAN button ⓮
5. Numeric buttons ⓾
6. CLEAR button ⓭, ⓱
7. A ↔ B repeat button ⓯
8. A. SPACE (auto space)/A. CUE (auto cue) button ⓫, ㉒
9. FILE (custom file) button ㉘
10. MEMO INPUT button ㉘
11. LEVEL FILE button ㉘
12. FADER (fade in/fade out) button ⓫
13. ERASE button ㉘
14. LINE OUT LEVEL (line out/headphone level) buttons ❻, ❽
15. ◀◀ ▶▶ SLOW (low speed manual search) buttons ⓰
16. INDEX buttons ⓫, ㉘
17. ◀◀ ▶▶ (manual search) button ⓰
18. I◀◀ ▶▶I AMS buttons ⓰
19. ■ (stop) button ❽
    ❙❙ (pause) button ❽
    ▶ (play) button ❽
20. CLEAR REPEAT button (A ↔ B repeat clear/repeat) button ⓯
21. TIME button ❾
22. CHECK button ⓱
23. > 20 (over 20) button ⓾
24. PLAY MODE buttons
    CONTINUE button ⓬
    SHUFFLE button ⓬
    PROGRAM button ⓭
    C (custom). INDEX button ㉘

Buttons with yellow letters (A, B, C, ...) are for writing a disc memo (page 26).

Installing Batteries in the Remote Commander



On battery life

- About half a year of normal operation can be expected when using the Sony SUM-3(NS) batteries.
- When the batteries are run down, the remote commander will not operate the unit. In this case, replace both batteries with new ones.

Notes on the remote commander and remote control operation

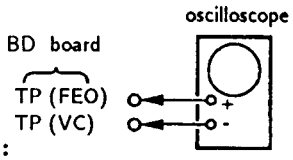
- Keep the commander away from extremely hot or humid places.
- Avoid dropping any foreign objects into the commander casing, particularly when replacing the batteries.
- Avoid exposing the remote sensor to direct sunlight or lighting apparatus. Such exposure can cause a malfunction.
- To avoid damage caused by battery leakage and corrosion, remove the batteries when the commander will not be used for a long time.

SECTION 2
ELECTRICAL BLOCK CHECKING

Note :

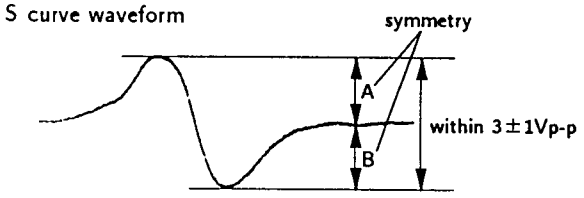
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

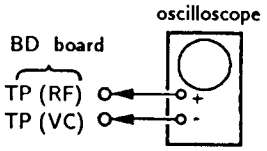


5. After check, remove the lead wire connected in step 2.

Note : • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check

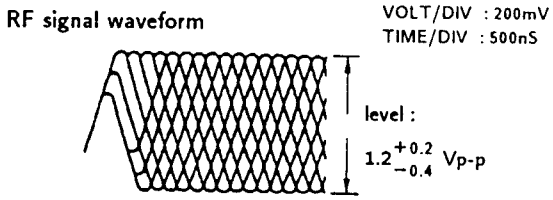


Procedure :

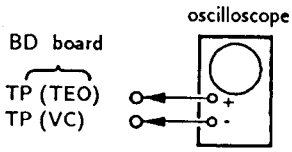
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

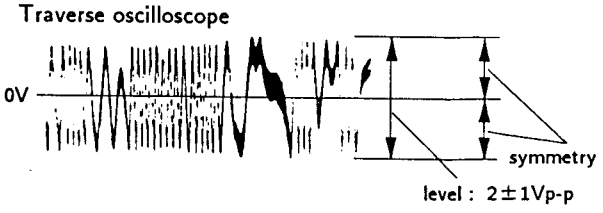


E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

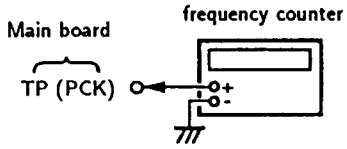


6. Remove the lead wire connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

1. Connect frequency counter to test point (PCK) with lead wire.

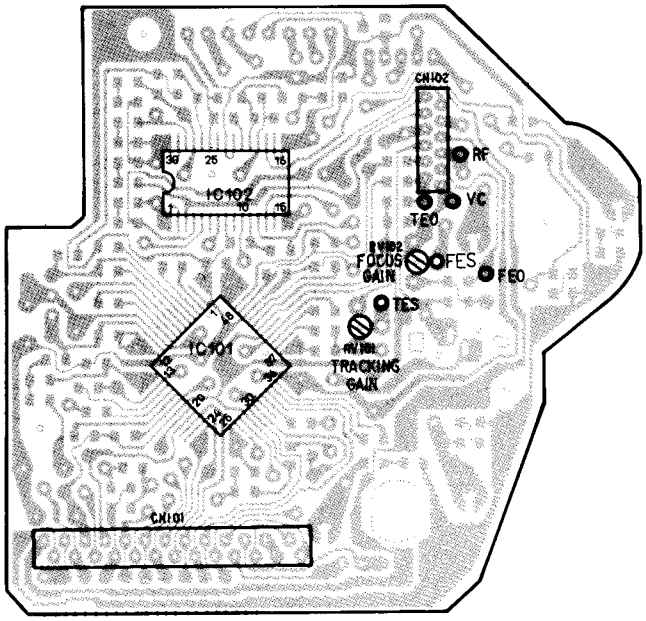


2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

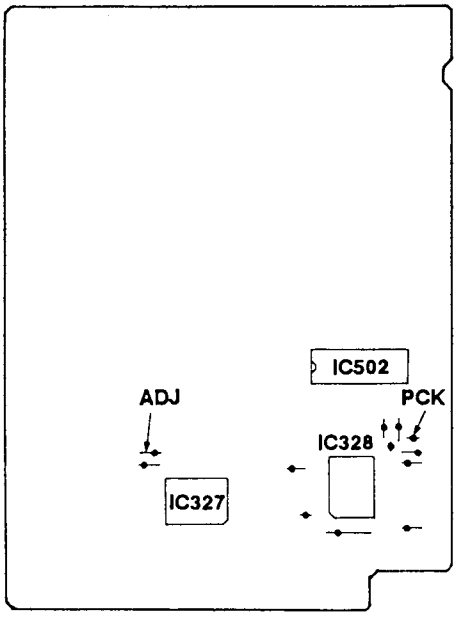
Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Test point : BD board – conductor side –



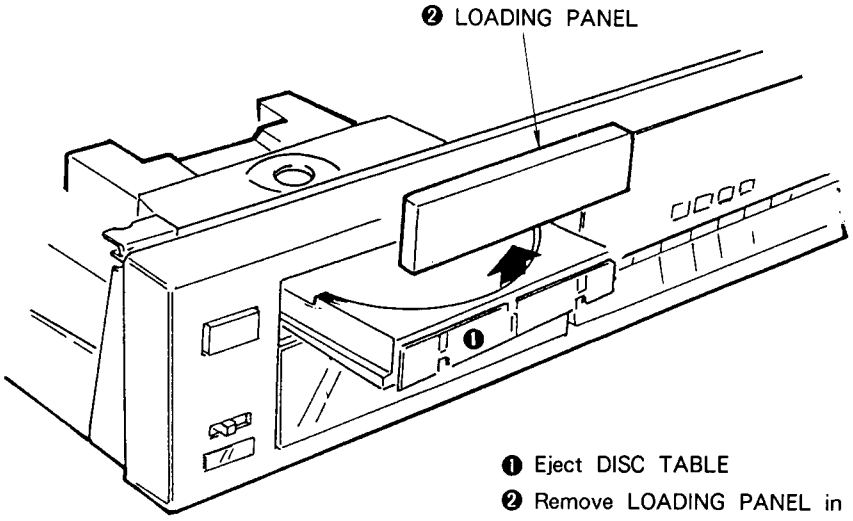
Test Location : main board – component side –



SECTION 3
DISASSEMBLY

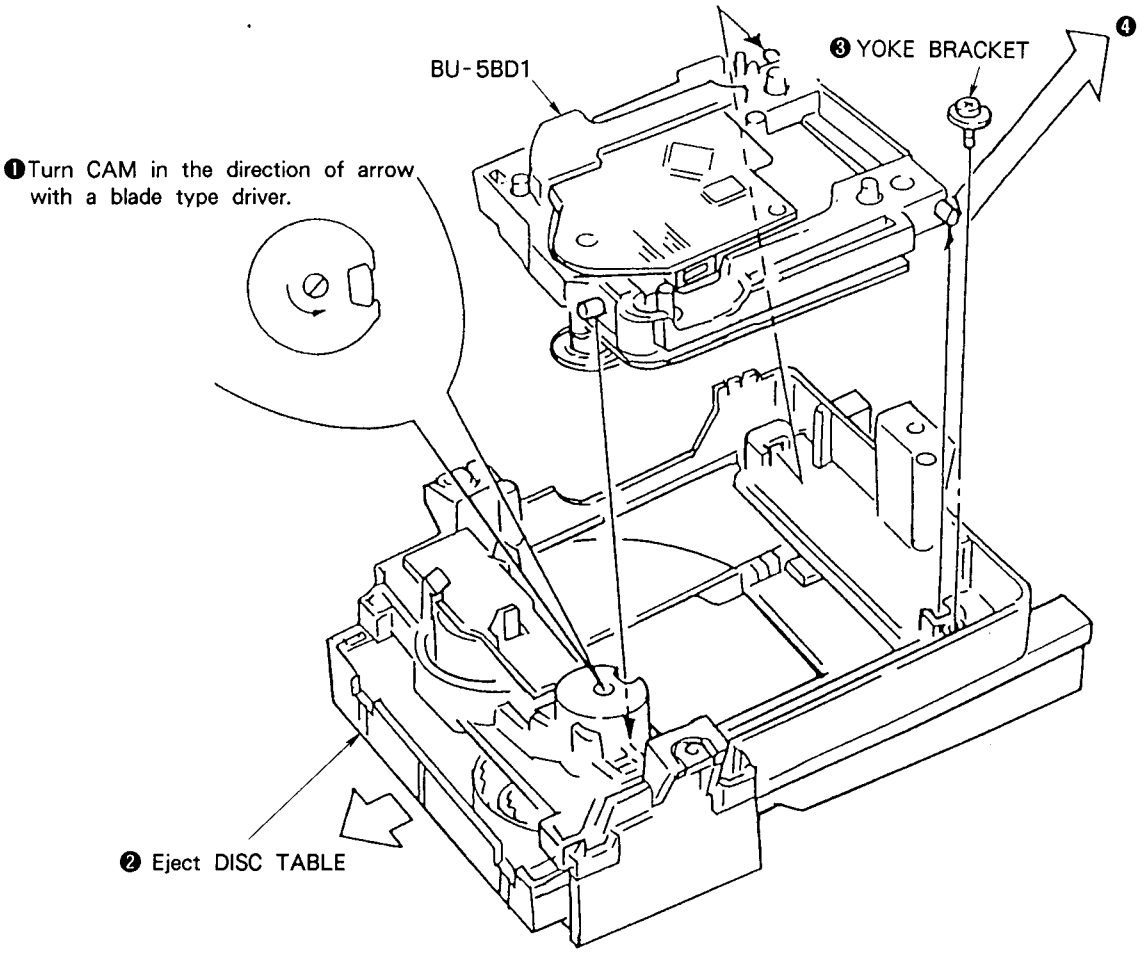
NOTE : Follow the disassembly procedure in the numerical order given.

REMOVAL OF LOADING PANEL



❶ Eject DISC TABLE
❷ Remove LOADING PANEL in the direction of arrow.

REMOVAL OF BASE UNIT (BU-5BD1)



SECTION 4
DIAGRAMS

4-1. Description on IC101 (CXA1372Q)

Pin No.	Pin Name	I/O	Pin Description
1	VC		GND when two (±) dual power supplies are in use, or the center voltage (2.5 V) when a single power supply is in use.
2	FGD	I	Time constants for gain switching in normal mode/down mode and for focus gain are connected between the FGD and FS3 pins.
3	FS3	I	
4	FLB	I	The capacitor for low frequency boost in the focus servo loop is connected.
5	FEO	O	Focus drive output
6	FE−	I	Inverted input to focus amplifier
7	SRCH	I	Time constants to generate the focus search waveform are connected.
8	TGU	I	Time constants for gain switching in normal mode/up mode and for tracking gain are connected between TGU pin and TG2 pin.
9	TG2	I	
10	AVCC		Analog power supply (5 V when ± dual power supplies are in use, 5 V when a single power supply is in use.)
11	TAO	O	Tracking drive output
12	TA−	I	Inverted input to tracking amplifier
13	SL+	I	Non-inverted input to sled amplifier
14	SLO	O	Sled drive output
15	SL−	I	Non-inverted input to sled amplifier
16	FSET	I	The 510-kΩ phase compensator resistor is connected to this pin.
17	ISET	I	The current setting resistor is connected to this pin.
18	SSTOP	I	The limit switch is connected to this pin.
19	AVEE		Analog power supply (−5V when ± dual power supplies are in use, or GND when a single power supply is in use.)
20	DIRC	I	Direct control pin.
21	LOCK	I	Sled run-away prevention circuit operates when this signal is "L".
22	CLK	I	Serial data transfer clock input that is supplied from CPU (or DSP).
23	XLT	I	Latch input from CPU (or DSP).
24	DATA	I	Serial data input from CPU (or DSP).
25	XRST	I	System reset. "L" to reset.
26	C.OUT	O	Output to tracking counter.
27	SENS	O	SENS output
28	DGND		Digital ground (GND). (GND when ± dual power supplies are in use. GND when a single power supply is in use.)
29	MIRR	O	Mirror output.
30	DFCT	O	Defect output. "H" when defective.
31	ASY	I	Auto-assymmetry control input.
32	EFM	O	EFM comparator output.

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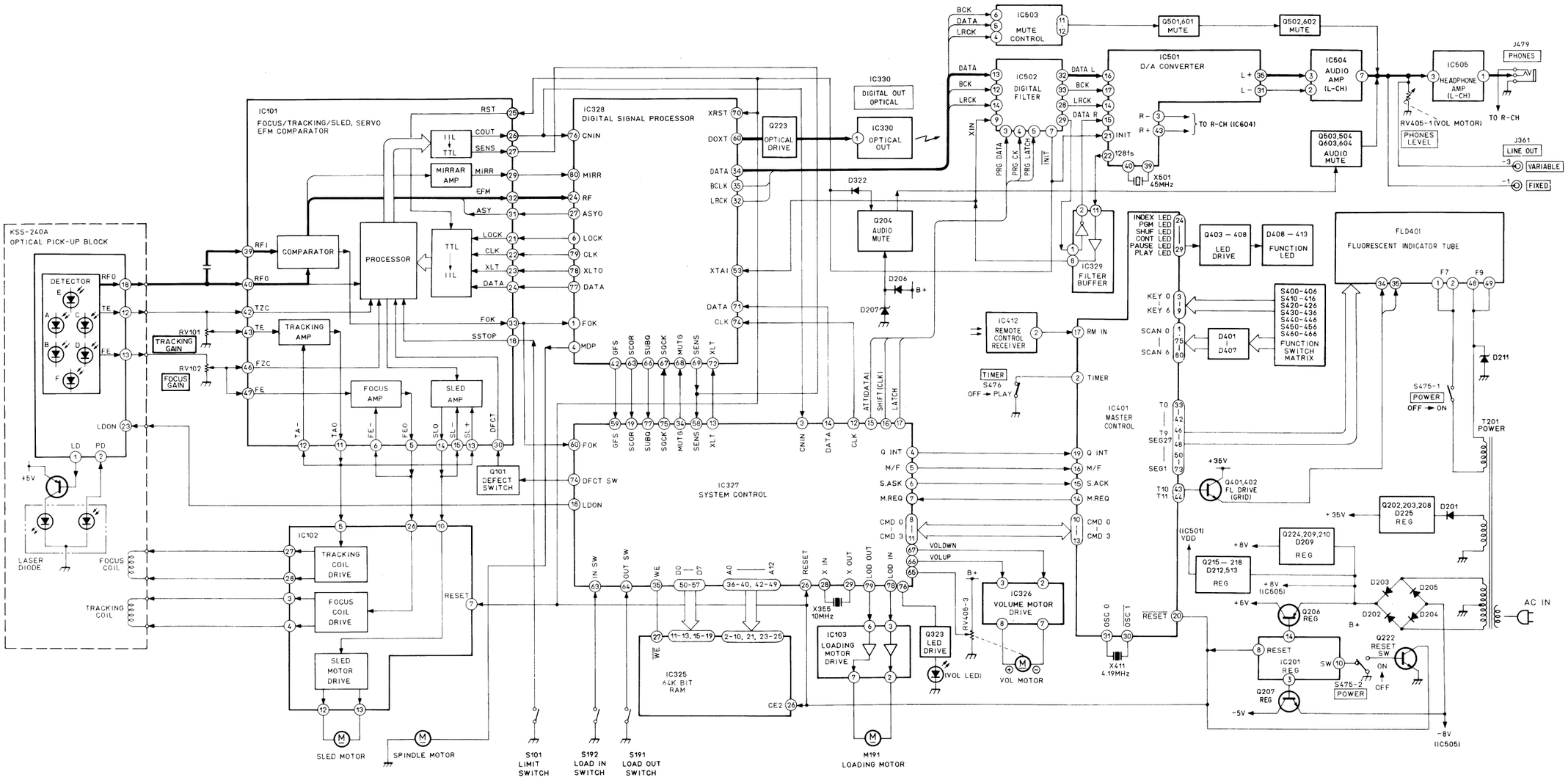
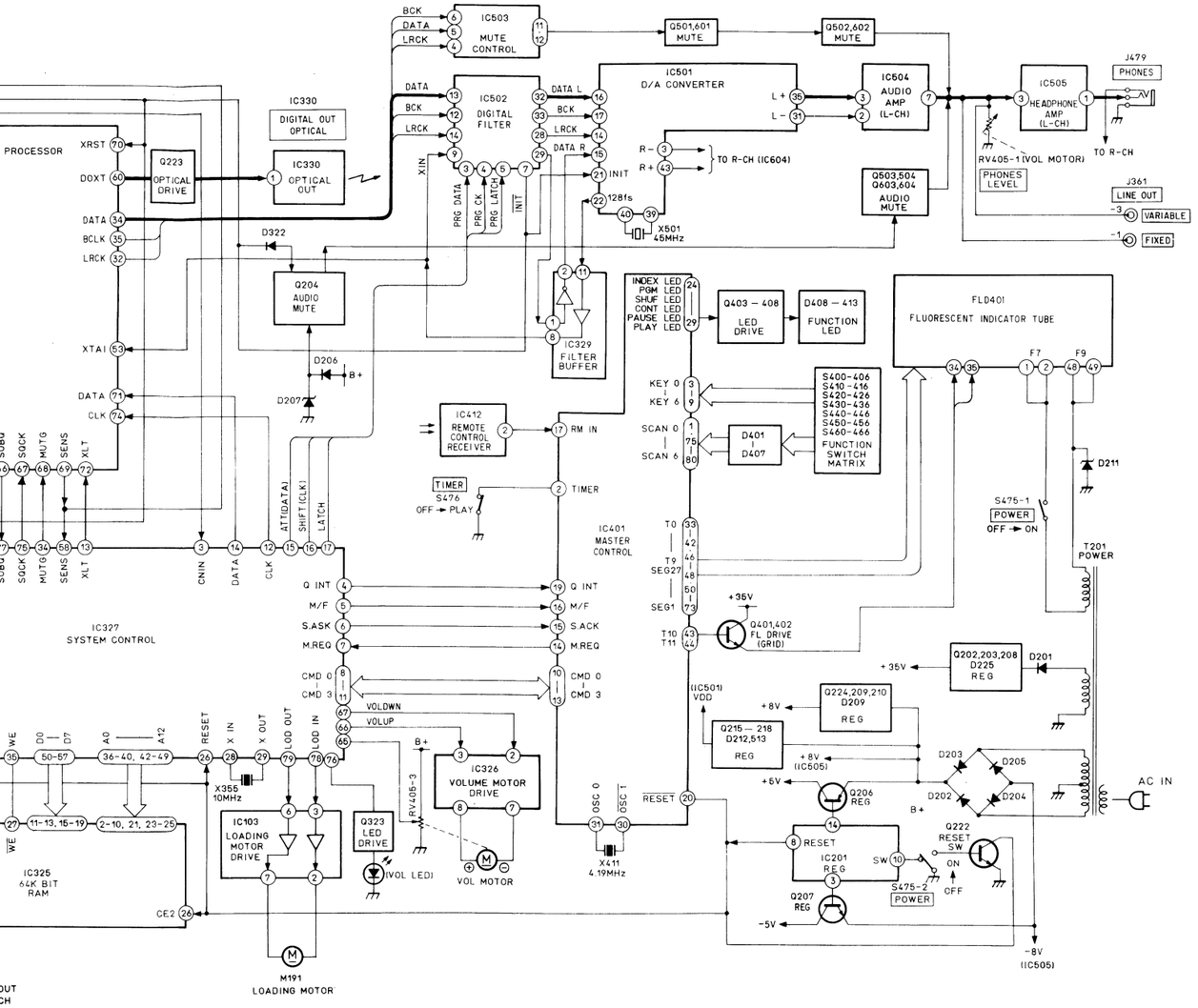
Pin No.	Pin Name	I/O	Pin Description
33	FOK	O	Focus OK.
34	CC2	I	Defect-bottom-hold input (input by capacitive coupling).
35	CC1	O	Defect-bottom-hold output.
36	DVCC		Digital power supply (+5 V when ± dual power supplies in use. +5 V when a single power supply is in use.)
37	CB	I	The defect-bottom-hold capacitor is connected to this pin.
38	CP	I	The mirror hold capacitor is connected to this pin.
39	RFI	I	RF signal input (input by capacitive coupling).
40	RFO	I	RF signal input (input by DC coupling).
41	DVEE		Digital power supply (−5 V when ± dual power supplis are in use. GND when a single power supply is in use.)
42	TZC	I	Tracking zero cross comparator input.
43	TE	I	Tracking error input.
44	TDFCT	I	The defect prevention hold capacitor is connected to this pin.
45	ATSC	I	Anti-shock input.
46	FZC	I	Focus zero-cross comparator input.
47	FE	I	Focus error input.
48	FDFCT	I	The defect prevention hold capacitor is connected to this pin.

4-2. BLOCK DIAGRAM



MC-Service



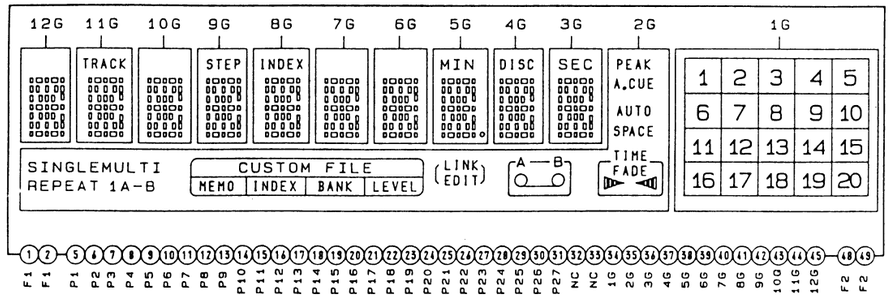
MC-Service

FLUORESCENT DISPLAY TUBE FLD401 (1-519-622-11)

GRID INDICATOR

a	b	c	d	e
f	g	h	i	j
f	g	h	i	j
k	l	m	n	o
p	q	r	s	t
p	q	r	s	t
u	v	w	x	y

(12G-3G)


12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G
TRACK
STEP
INDEX
MIN
DISC
SEC
PEAK
A.CUE
AUTO SPACE
TIME
FADE
SINGLE MULTI
REPEAT 1A-B
CUSTOM FILE
MEMO
INDEX
BANK
LEVEL
(LINK EDIT)
A — B
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
F1 F1 P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 NC NC 1G 2G 3G 4G 5G 6G 7G 8G 9G 10G 11G 12G F2 F2

ANODE CONNECTION

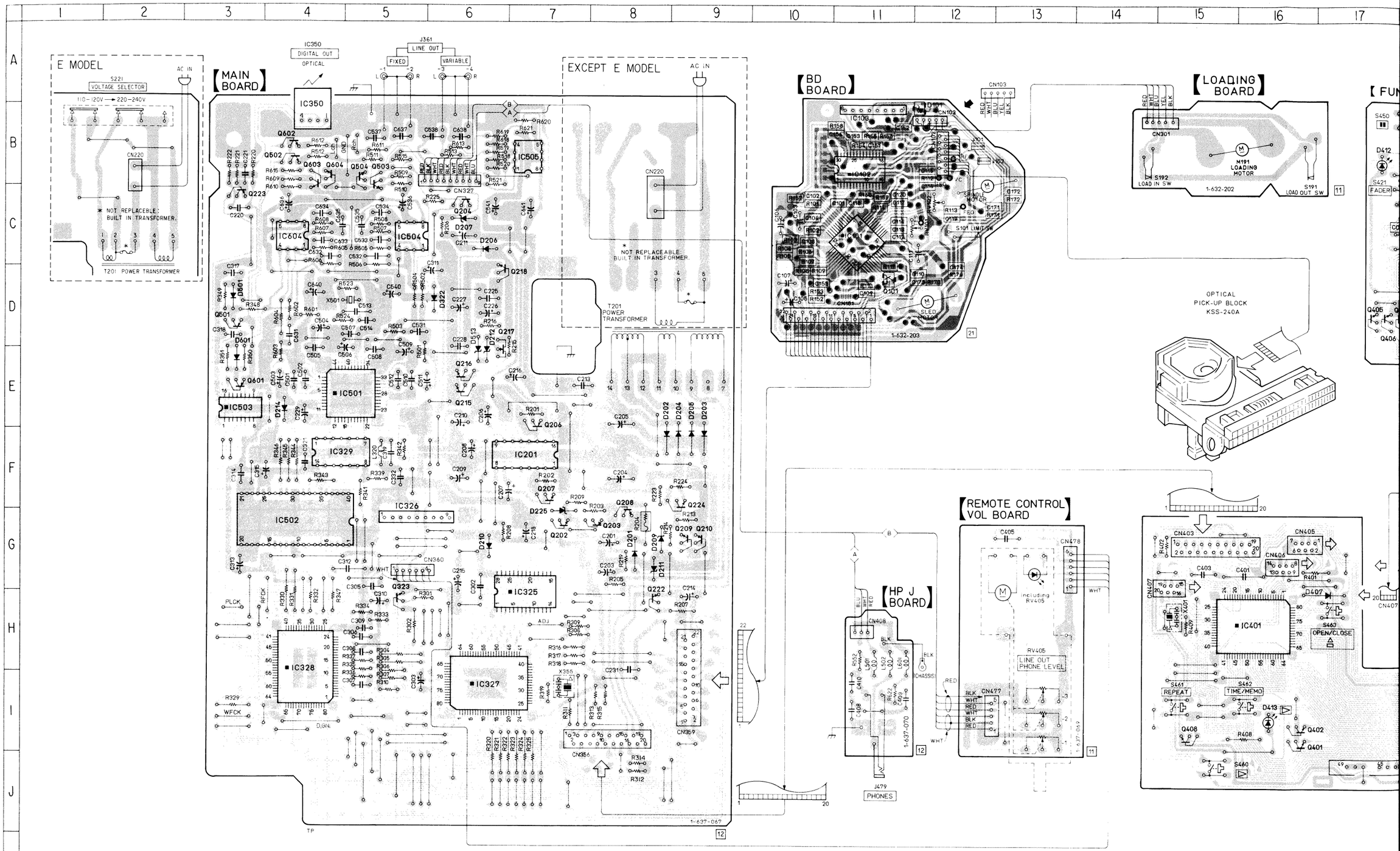
	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a	a	a	a	REPEAT	1
P2	b	b	b	b	b	b	b	b	b	b	1	2
P3	c	c	c	c	c	c	c	c	c	c	A–	3
P4	d	d	d	d	d	d	d	d	d	d	B	4
P5	e	e	e	e	e	e	e	e	e	e	A.CUE	5
P6	f	f	f	f	f	f	f	f	f	f	AUTO SPACE	6
P7	g	g	g	g	g	g	g	g	g	g	SINGLE	7
P8	h	h	h	h	h	h	h	h	h	h	MULTI	8
P9	i	i	i	i	i	i	i	i	i	i	CUSTOM FILE	9
P10	j	j	j	j	j	j	j	j	j	j	MEMO	10
P11	k	k	k	k	k	k	k	k	k	k	INDEX	11
P12	l	l	l	l	l	l	l	l	l	l	BANK	12
P13	m	m	m	m	m	m	m	m	m	m	LEVEL	13
P14	n	n	n	n	n	n	n	n	n	n	[LINK]	14
P15	o	o	o	o	o	o	o	o	o	o	EDIT	15
P16	p	p	p	p	p	p	p	p	p	p	–	16
P17	q	q	q	q	q	q	q	q	q	q	A	17
P18	r	r	r	r	r	r	r	r	r	r	B	18
P19	s	s	s	s	s	s	s	s	s	s	▭	19
P20	t	t	t	t	t	t	t	t	t	t	TIME	20
P21	u	u	u	u	u	u	u	u	u	u	FADE	–
P22	v	v	v	v	v	v	v	v	v	v	▶	–
P23	w	w	w	w	w	w	w	w	w	w	◀	–
P24	x	x	x	x	x	x	x	x	x	x	–	–
P25	y	y	y	y	y	y	y	y	y	y	–	▦
P26	–	TRACK	–	STEP	INDEX	–	–	MIN	DISC	SEC	PEAK	▷
P27	–	–	–	–	–	–	–	○	–	–	–	–

4-3. PRINTED WIRING BOARDS

• See page 22 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location
D101	B-12
D201	G-8
D202	E-9
D203	E-9
D204	E-9
D205	E-9
D206	C-6
D207	C-6
D209	G-9
D210	G-6
D211	G-8
D212	E-6
D214	E-4
D225	G-7
D322	D-6
D401	D-19
D402	D-19
D403	D-19
D404	D-19
D405	D-19
D406	D-18
D407	H-17
D408	D-20
D409	D-19
D410	D-18
D411	D-18
D412	B-18
D413	I-16
D501	D-3
D513	E-6
D601	E-3
IC101	C-11
IC102	B-11
IC103	B-11
IC201	F-7
IC325	H-7
IC326	G-5
IC327	I-6
IC328	I-4
IC329	F-5
IC350	B-4
IC401	H-16
IC412	J-23
IC501	E-5
IC502	G-4
IC503	E-3
IC504	C-5
IC505	B-7
IC604	C-4
Q101	D-11
Q202	G-7
Q203	G-8
Q204	C-6
Q206	F-7
Q207	F-7
Q208	G-8
Q209	G-9
Q210	G-9
Q215	E-6
Q216	E-6
Q217	D-7
Q218	D-7
Q222	H-8
Q223	C-3
Q224	G-9
Q323	H-5
Q401	I-17
Q402	I-17
Q403	D-18
Q404	D-18
Q405	D-17
Q406	D-18
Q407	D-18
Q408	I-15
Q501	D-3
Q502	B-4
Q503	B-5
Q504	B-5
Q601	E-3
Q602	B-4
Q603	B-4
Q604	B-4



EXCEPT E MODEL

AC IN

NOT REPLACEABLE
BUILT IN TRANSFORMER.

T201
POWER
TRANSFORMER

1-637-067

【BD BOARD】

1-632-203

【LOADING BOARD】

M191
LOADING
MOTOR

S192
LOAD IN SW

S191
LOAD OUT SW

1-632-202

OPTICAL
PICK-UP BLOCK
KSS-240A

【FUNCTION BOARD】

1-637-073

【P.SW BOARD】

1-637-071

【REMOTE CONTROL】
【VOL BOARD】

【HP J BOARD】

1-637-070

1-637-069

J479
PHONES

【DISP BOARD】

FL-DISPLAY

1-637-072

MC-Service

Note on Mounting Diagram:

- ○—— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.

【DISP BOARD】

【FUNCTION (2/2) BOARD】

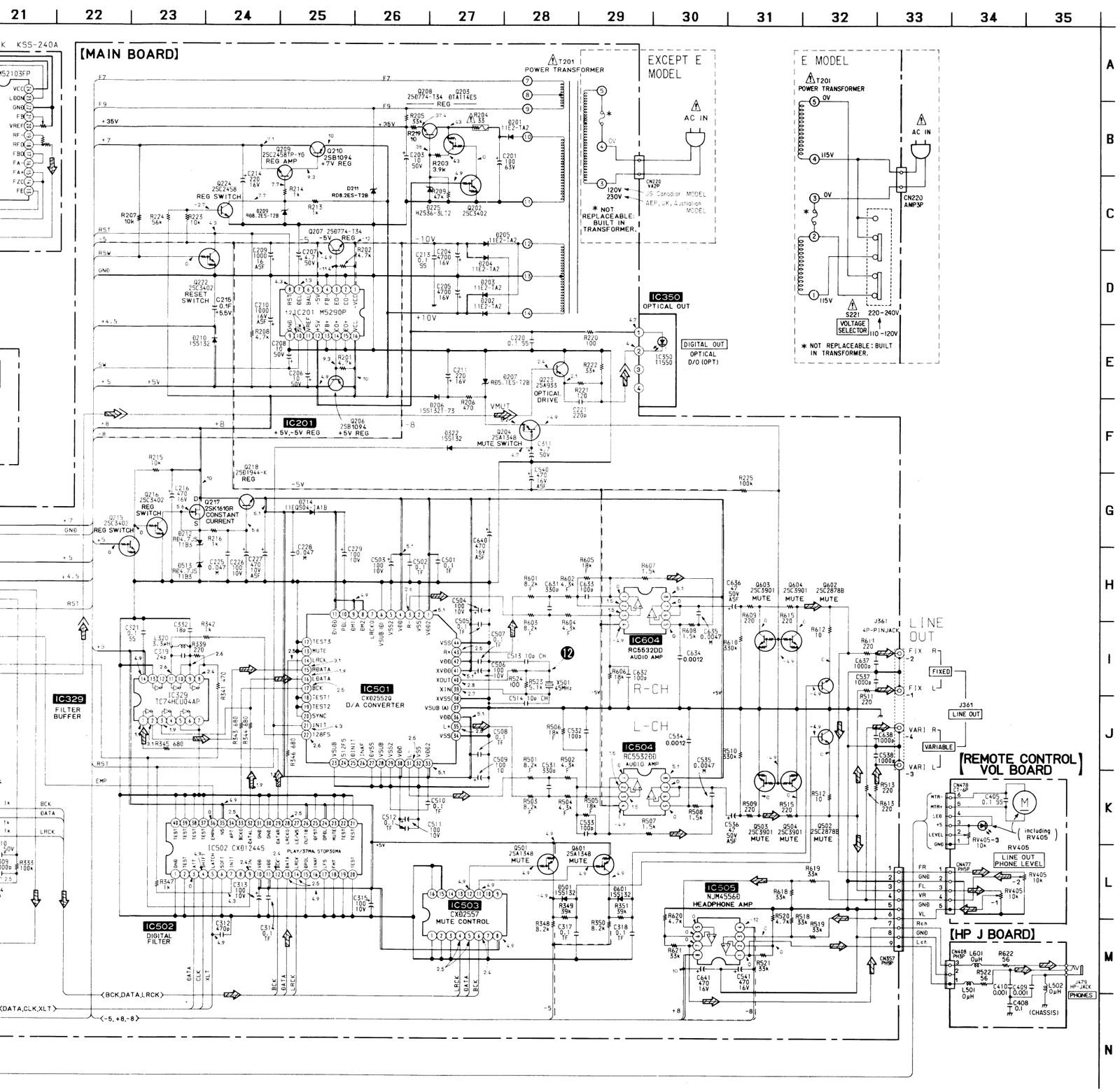
【FUNCTION (1/2) BOARD】

【P.SW BOARD】

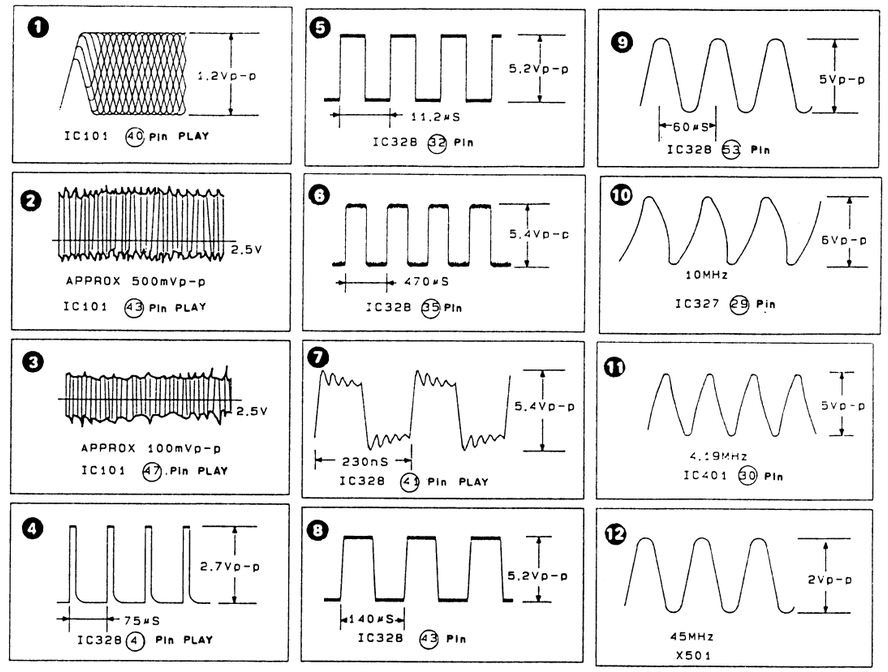
【BD BOARD】

【MAIN BOARD】

【LOADING BOARD】



• WAVE FORM


1 1.2Vp-p IC101 40 Pin PLAY
2 2.5V APPROX 500mVp-p IC101 43 Pin PLAY
3 2.5V APPROX 100mVp-p IC101 47 Pin PLAY
4 2.7Vp-p 75µS IC328 4 Pin PLAY
5 5.2Vp-p 11.2µS IC328 32 Pin
6 5.4Vp-p 470µS IC328 35 Pin
7 5.4Vp-p 230nS IC328 41 Pin PLAY
8 5.2Vp-p 140µS IC328 43 Pin
9 5Vp-p 60µS IC328 53 Pin
10 6Vp-p 10MHz IC327 29 Pin
11 5Vp-p 4.19MHz IC401 30 Pin
12 2Vp-p 45MHz X501

Note on Schematic Diagram:

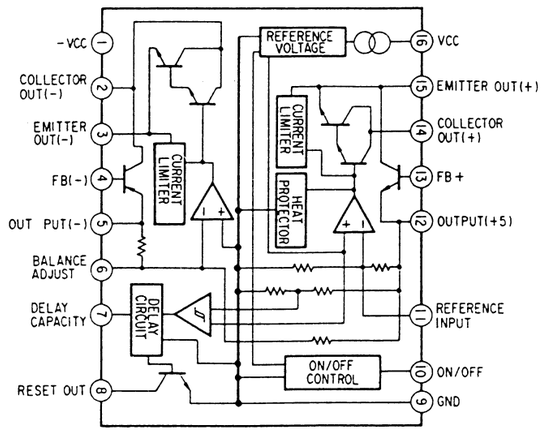
- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- : fusible resistor.

Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

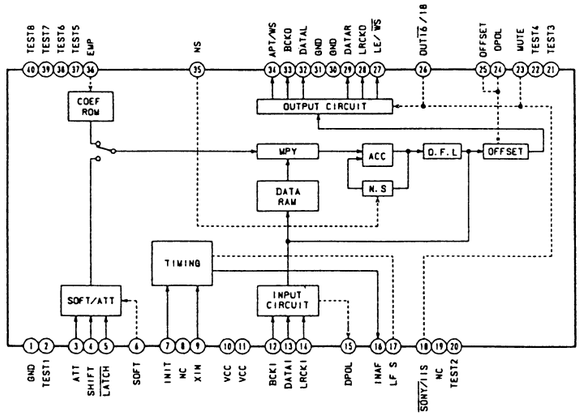
- ▬▬ : B+ Line
- ▬ ▬ : B– Line
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PLAY
- Voltages are taken with a VOM (Input impedance 10M Ω) Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇒ : CD
  ⇒ : digital out

• IC BLOCK DIAGRAM

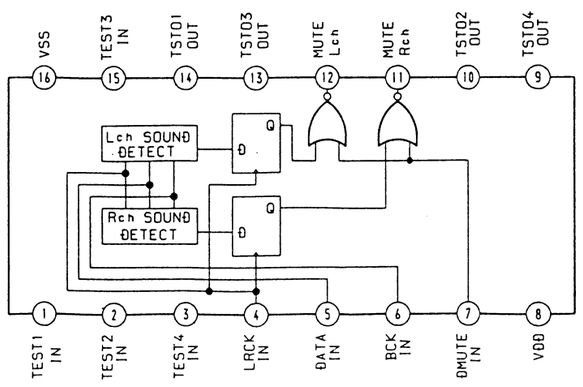
IC201 M5290P-16



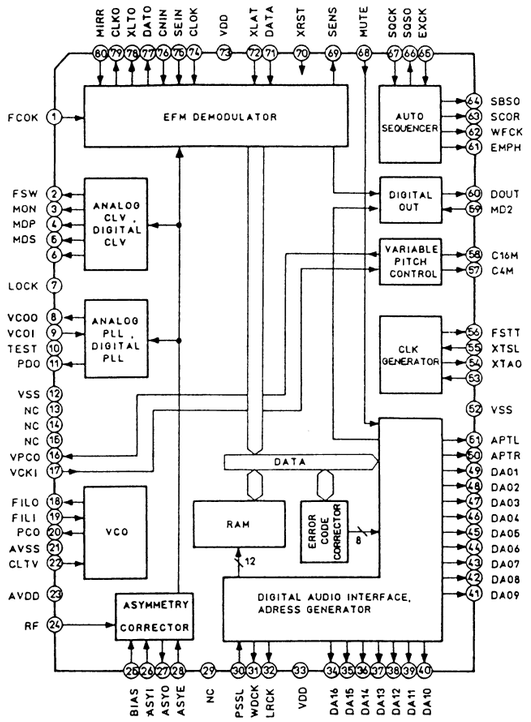
IC502 CXD1244S



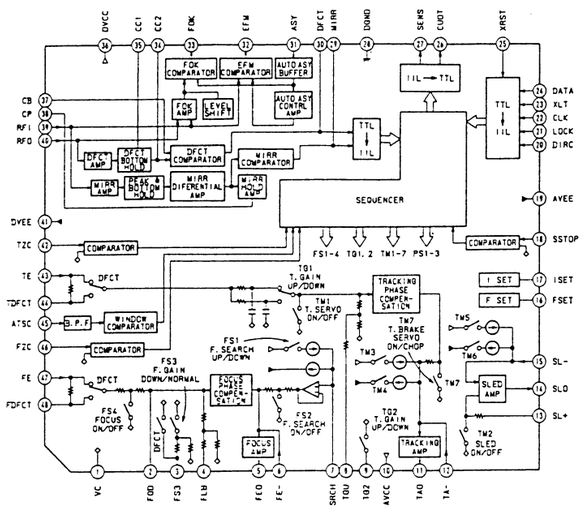
IC503 CXD2557M



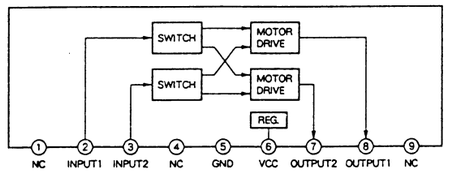
IC328 CXD2500AQ



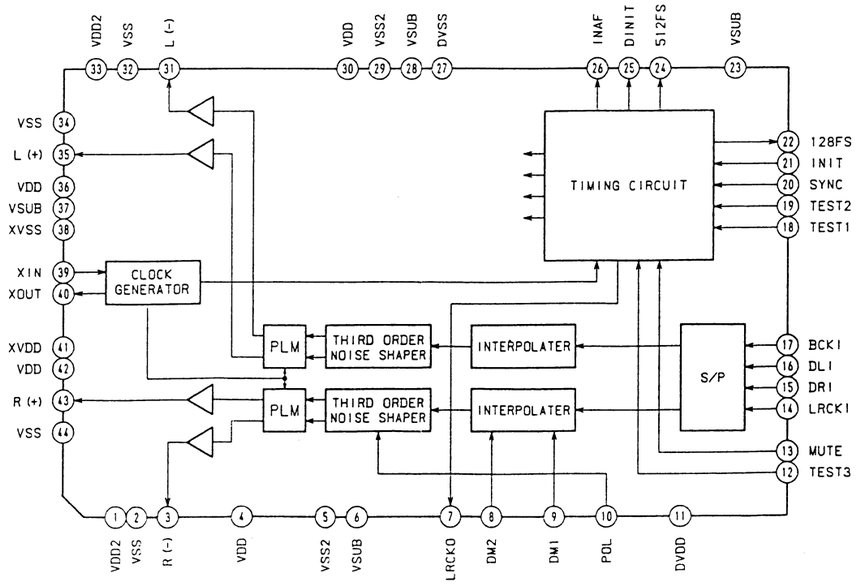
IC101 CXA1372Q



IC326 BA6208

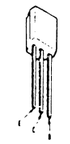


IC501 CXD2552Q-3



• Semiconductor Lead Layuots

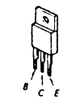
DTA114ES
DTC114EF
DTC114ES
DTC143TS



DTC144EK

2SA1175-HFE
2SC2785-HFE

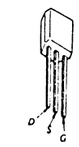
2SB1094-L
2SD1944-K



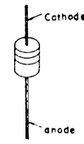
S2SC2878-B

2SD774-34

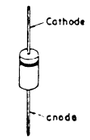
2SK161GR



HZS36-3L
RD4.7JS-B3
RD5.1ES-B2
RD8.2ES-B2
1SS120
11EQS04

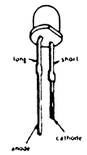


10E2



RD4.7M-B1

BR3371X
MAA3371X
MAY3371X-M-177
MBG3371X-J69K
MGB3371X-14
MPY3371X



NOTE :
- -XX, -
so they
from the
- Color Ind
Example
KNOB, B

P

5-1. OVERA

16

15

2

Ref.
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

SECTION 5
EXPLODED VIEWS

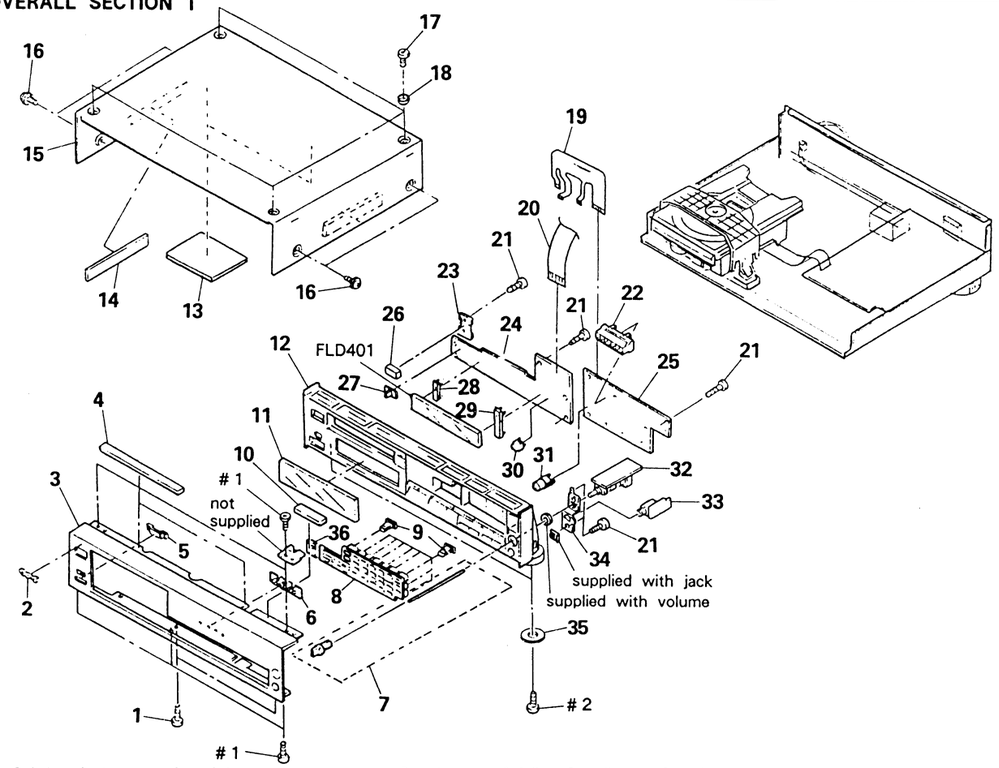
NOTE :

- – XX, – X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

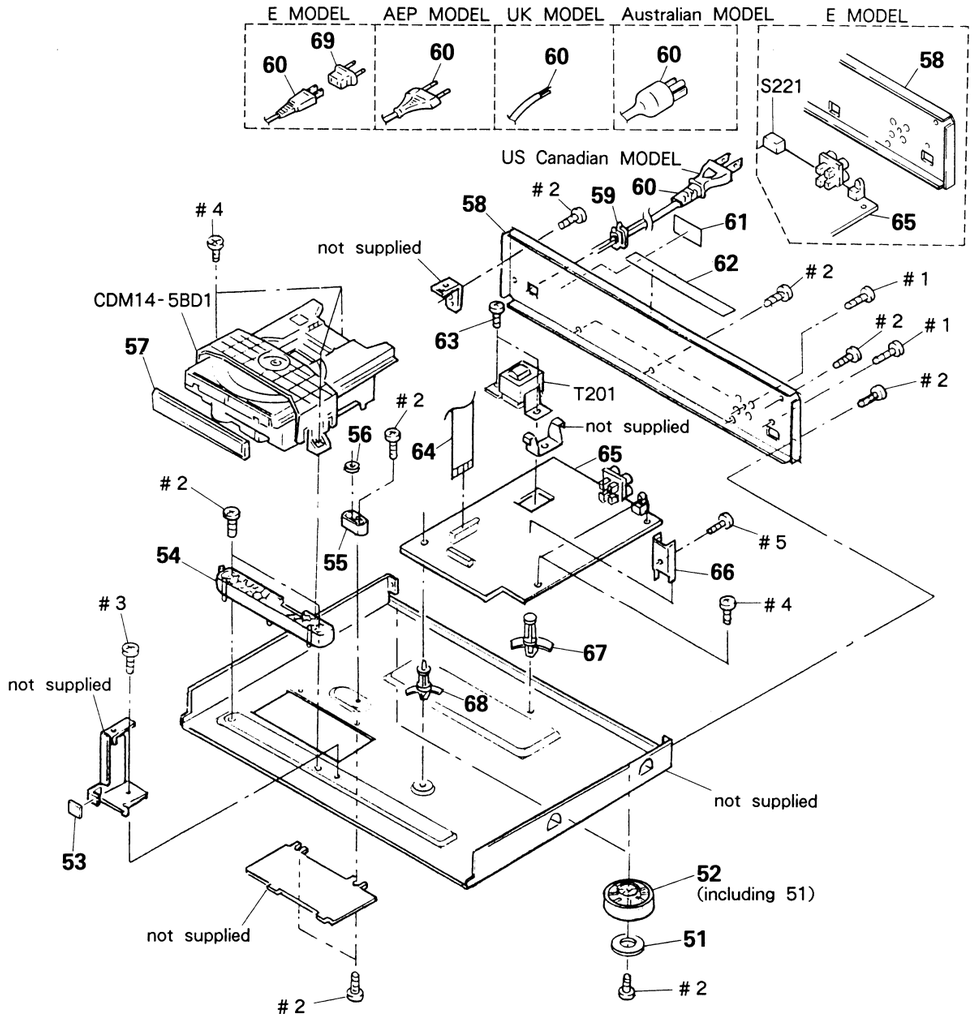
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. OVERALL SECTION 1



Ref. No.	Part No.	Description	Remark
1	3-703-685-21	SCREW (+BV 3X8)	
2	4-908-848-01	EMBLEM, SONY	
3	4-941-239-11	PANEL (FRONT) (AEP, UK, E, AUS)	
	4-941-239-01	PANEL (FRONT) (US, Canadian)	
4	* 4-929-557-01	CUSHION (PANEL)	
5	4-933-236-01	PLATE, RAY CATCHER	
6	4-941-254-01	INDICATOR (MODE)	
7	A-4604-698-A	KNOB (HP) ASSY	
8	* 4-941-249-01	GUIDE, KNOB	
9	4-941-250-01	BUTTON (MC/A)	
	4-941-251-01	BUTTON (MC/C)	
	4-941-252-01	BUTTON (MC/D)	
	4-941-253-01	BUTTON (MC/E)	
10	9-911-845-XX	CUSHION (25)	
11	4-941-246-01	PLATE, INDICATION	
12	X-4941-043-1	PANEL (SUB) ASSY (AEP, UK, E, AUS)	
	X-4941-342-1	PANEL (SUB) ASSY (US, Canadian)	
13	* 4-922-943-01	DUMPER	
14	* 4-929-561-01	CUSHION (CASE)	
15	4-934-008-01	CASE	
16	3-704-366-01	SCREW (CASE) (M3X8)	
17	3-721-187-01	SCREW (3X8)	
18	4-928-025-11	ESCUTCHEON (TOP PLATE)	
19	1-535-874-11	JUMPER, FILM (WITH TERMINAL)	
20	1-590-217-11	WIRE, FLAT TYPE (20 CORE)	
21	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
22	* 4-941-259-01	HOLDER (LED/M)	
23	* 1-637-071-11	P. SW BOARD	
24	* 1-637-072-11	DISP BOARD	
25	* 1-637-073-11	FUNCTION BOARD	
26	4-922-921-01	BUTTON (POWER)	
27	4-922-518-11	KNOB (TIMER)	
28	* 4-941-171-01	HOLDER (L)	
29	* 4-941-256-01	HOLDER (R)	
30	* 4-941-257-01	HOLDER (LED/PL)	
31	* 4-941-258-01	HOLDER (LED/PA)	
32	* 1-637-069-11	REMOTE CONTROL BOARD	
33	* 1-637-070-11	HP BOARD	
34	4-941-255-01	BRACKET (HP)	
35	4-923-836-11	CUSHION	
36	* 4-943-086-01	GUIDE (B), KNOB	
FLD401	1-519-622-11	INDICATOR TUBE, FLUORESCENT	

5-2. OVERALL SECTION 2

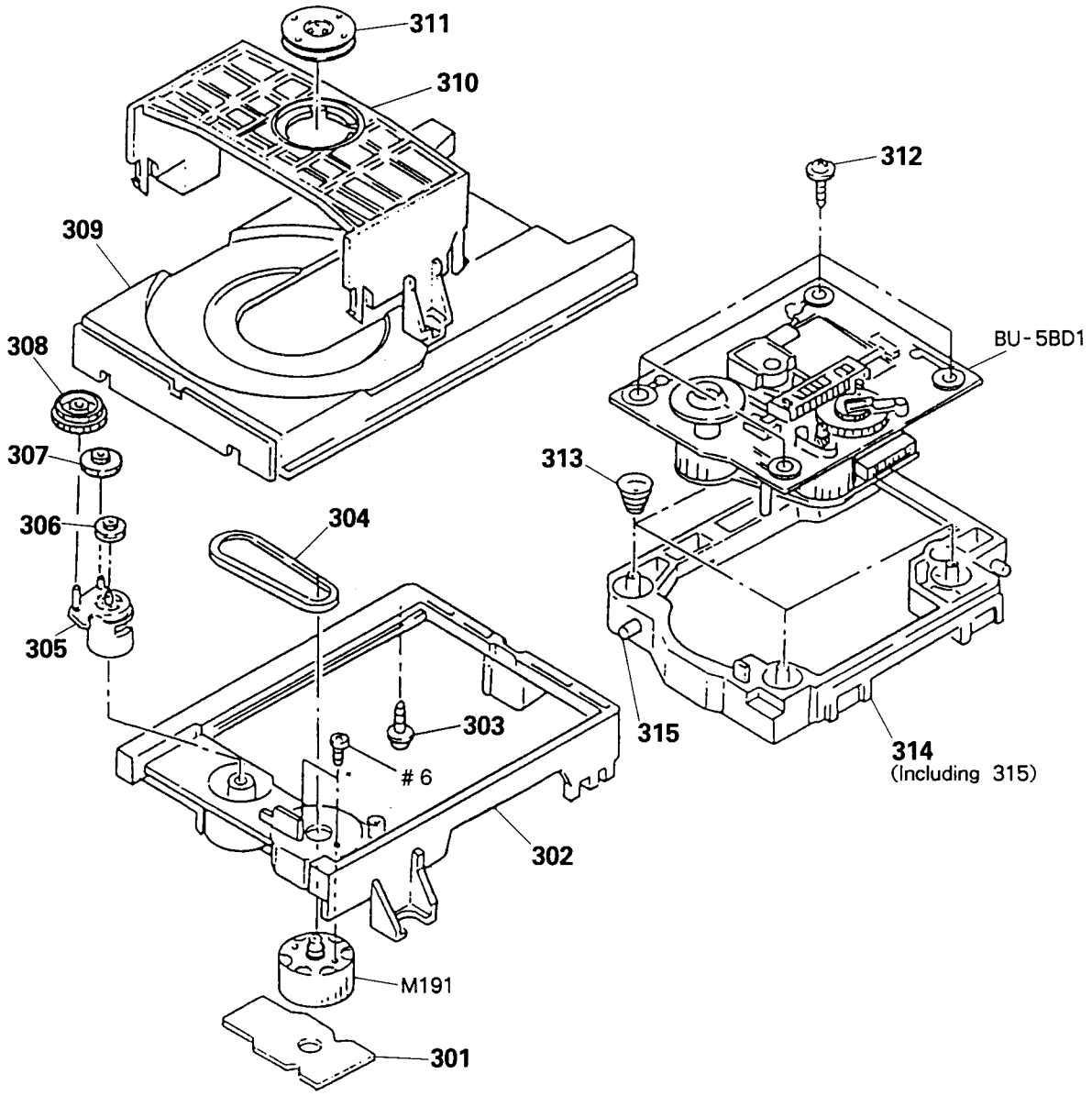


Ref. No.	Part No.	Description	Remark
51	4-923-836-11	CUSHION	
52	X-3304-938-2	FOOT ASSY (AEP, UK, E, AUS)	
	X-4885-950-1	FOOT ASSY (US, Canadian)	
53	9-911-863-XX	SPACER	
54	4-941-169-01	BASE (MD/F)	
55	4-941-170-01	BASE (MD/R)	
56	3-580-722-11	WASHER, INSULATING	
57	4-941-168-01	PANEL, LOADING	
58	* 4-941-248-11	PANEL, BACK (US)	
	* 4-941-248-21	PANEL, BACK (Canadian)	
	* 4-941-248-31	PANEL, BACK (UK)	
	* 4-941-248-41	PANEL, BACK (AEP)	
	* 4-941-248-51	PANEL, BACK (E)	
	* 4-941-248-61	PANEL, BACK (AUS)	
59	* 3-703-571-11	BUSHING (S) (4516), CORD (US, Canadian, E)	
	* 3-703-244-00	BUSHING (2104), CORD (AEP, UK, AUS)	
60	⚠ 1-558-945-21	CORD, POWER (POLAR. SPT-1) (US, Canadian)	
	⚠ 1-558-946-21	CORD, POWER (POLAR. SPT-1) (UK)	
	⚠ 1-574-358-31	CORD, POWER (WITH CONNECTOR) (AUS)	
	⚠ 1-575-653-21	CORD, POWER (E)	
	⚠ 1-575-651-21	CORD, POWER (AEP)	
61	* 4-941-548-01	LABEL, CLASS 1 (AEP, UK, E, AUS)	
62	* 4-927-653-01	SHEET (F/P)	
63	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
64	1-575-002-11	WIRE, FLAT TYPE (22 CORE)	
65	* A-4617-567-A	MAIN BOARD, COMPLETE (EXCEPT E)	
	* A-4617-779-A	MAIN BOARD, COMPLETE (E)	
66	* 4-941-237-01	HEAT SINK	
67	* 3-349-025-41	HOLDER, PC BOARD	
68	* 4-924-098-01	HOLDER, PC BOARD	
69	⚠ 1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
S221	⚠ 1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	
T201	⚠ 1-449-921-11	TRANSFORMER, POWER (US, Canadian)	
	⚠ 1-449-922-11	TRANSFORMER, POWER (AEP, UK, AUS)	
	⚠ 1-449-923-11	TRANSFORMER, POWER (E)	

Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

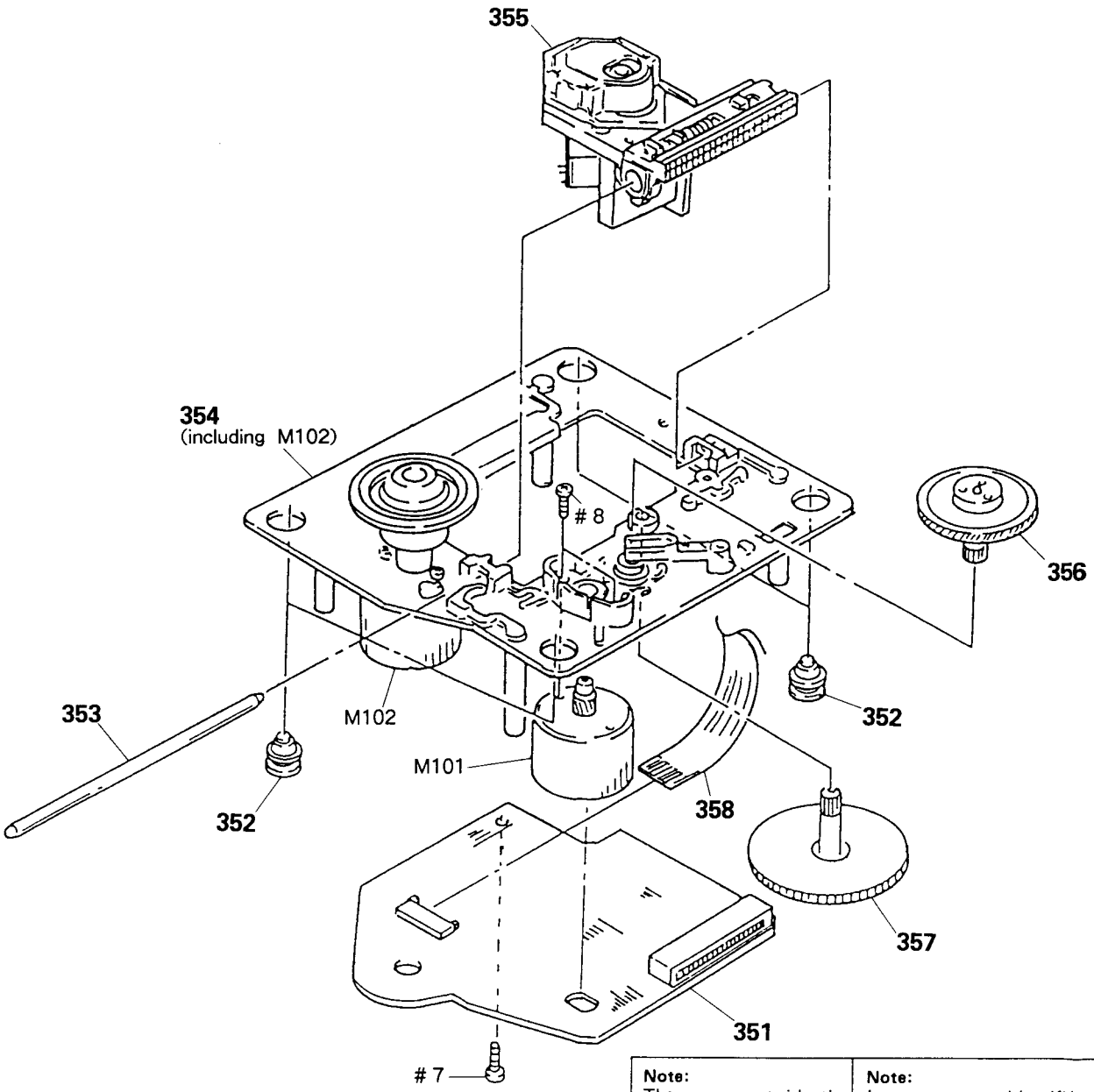
Note:
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

5-3. MD SECTION (CDM14-5BD1)



Ref.No.	Part No.	Description	Remark
301	* 1-632-202-11	LOADING BOARD	
302	4-933-111-01	CHASSIS (MD)	
303	* 4-917-583-21	BRACKET, YOKE	
304	4-927-649-01	BELT	
305	4-933-109-01	CAM	
306	4-927-651-01	PULLEY (S)	
307	4-927-628-01	GEAR (C)	
308	4-933-107-01	GEAR (PL)	
309	4-933-112-01	TABLE, DISC	
310	4-933-110-01	HOLDER (MG)	
311	* 1-452-538-11	MAGNET	
312	4-933-134-01	SCREW (+PTPWH M2.6X6)	
313	4-917-541-01	SPRING (B)	
314	4-933-129-01	HOLDER (BU)	
315	4-933-108-01	SHAFT (CAM)	
M191	A-4604-363-A	MOTOR (L) ASSY	

5-4. OPTICAL PICK-UP BLICK (BU-5BD1)



Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
351	* A-4617-161-A	BD BOARD, COMPLETE	
352	4-933-126-01	INSULATOR (A)	
353	4-917-565-01	SHAFT, SLED	
354	X-4917-523-3	BASE (OUTSERT) ASSY (M102 INCLUDING)	
355	⚠ 8-848-144-11	DEVICE, OPTICAL KSS-240A	
356	4-917-567-01	GEAR (M)	
357	4-917-564-01	GEAR (P), FLATNESS	
358	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE :

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be defferent from the parts specified in the diagrams or the components used on the set.
- −XX, −X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL : metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA... , uPA... , μPA... , uPB... , μPB... , uPC... , μPC... , uPD..., μPD...
- CAPACITORS :
  uF : μF
- COILS
  uH : μH

Ref.No.	Part No.	Description			Remark
	* A-4617-161-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C102	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C103	1-126-163-11	ELECT	4.7uF	20%	50V
C104	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C105	1-126-154-11	ELECT	47uF	20%	6.3V
C106	1-126-154-11	ELECT	47uF	20%	6.3V
C107	1-126-154-11	ELECT	47uF	20%	6.3V
C108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-131-367-00	TANTALUM	22uF	10%	20V
C112	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C113	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C114	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C115	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C117	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C118	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C119	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C120	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C151	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C152	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C153	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C154	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C155	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C171	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C172	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C173	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C174	1-163-038-00	CERAMIC CHIP	0.1uF		25V

Ref.No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-568-796-11	SOCKET, CONNECTOR 22P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
CN103	* 1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			
		< DIODE >			
D101	8-719-105-72	DIODE RD4.7M-B1			
		< IC >			
IC101	8-752-050-82	IC CXA1372Q			
IC102	8-759-822-36	IC LA6532M-T1			
IC103	8-759-633-65	IC M54641L			
		< JUMPER >			
J101	1-216-295-00	METAL CHIP	0	5%	1/10W
J102	1-216-295-00	METAL CHIP	0	5%	1/10W
		< TRANSISTOR >			
Q101	8-729-901-01	TRANSISTOR DTC144EK			
		< RESISTOR >			
R101	1-216-097-00	METAL CHIP	100K	5%	1/10W
R102	1-216-095-00	METAL CHIP	82K	5%	1/10W
R103	1-216-091-00	METAL CHIP	56K	5%	1/10W
R104	1-216-099-00	METAL CHIP	120K	5%	1/10W
R105	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R108	1-216-105-00	METAL CHIP	220K	5%	1/10W
R109	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R110	1-216-049-00	METAL CHIP	1K	5%	1/10W

BD DISP FUNCTION

Ref. No.	Part No.	Description			Remark
R111	1-216-049-00	METAL CHIP	1K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R114	1-216-105-00	METAL CHIP	220K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-085-00	METAL CHIP	33K	5%	1/10W
R154	1-216-085-00	METAL CHIP	33K	5%	1/10W
R155	1-216-093-00	METAL CHIP	68K	5%	1/10W
R156	1-216-081-00	METAL CHIP	22K	5%	1/10W
R157	1-216-079-00	METAL CHIP	18K	5%	1/10W
R158	1-216-079-00	METAL CHIP	18K	5%	1/10W
R159	1-216-079-00	METAL CHIP	18K	5%	1/10W
R160	1-216-049-00	METAL CHIP	1K	5%	1/10W
R171	1-216-001-00	METAL CHIP	10	5%	1/10W
R172	1-216-001-00	METAL CHIP	10	5%	1/10W
R173	1-216-001-00	METAL CHIP	10	5%	1/10W
R174	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-016-11	RES, ADJ, CARBON 10K			
RV102	1-238-016-11	RES, ADJ, CARBON 10K			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF			

****

*	1-637-072-11	DISP BOARD			
		**********			
*	4-941-171-01	HOLDER (L)			
*	4-941-256-01	HOLDER (R)			
*	4-941-257-01	HOLDER (LED/PL)			
		< CAPACITOR >			
C401	1-164-159-11	CERAMIC	0.1uF		50V
C403	1-164-159-11	CERAMIC	0.1uF		50V
C411	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
CN403	* 1-568-837-11	SOCKET, CONNECTOR 20P			
CN405	* 1-580-481-11	SOCKET, CONNECTOR 8P			
CN406	* 1-580-470-11	SOCKET, CONNECTOR 7P			
CN407	* 1-580-471-11	SOCKET, CONNECTOR 6P			
		< DIODE >			
D407	8-719-912-20	DIODE 1SS120			
D413	8-719-987-93	LED MBG3371X-J69K (▶)			

Ref. No.	Part No.	Description			Remark
		< FLUORESCENT INDICATOR >			
FLD401	1-519-622-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC401	8-759-505-50	IC MSC62408-015GS-V1K			
IC412	8-741-100-48	IC SBX1610-59			
		< TRANSISTOR >			
Q401	8-729-900-45	TRANSISTOR DTC114EF			
Q402	8-729-900-45	TRANSISTOR DTC114EF			
Q408	8-729-900-45	TRANSISTOR DTC114EF			
		< RESISTOR >			
R401	1-249-429-11	CARBON	10K	5%	1/4W
R402	1-249-429-11	CARBON	10K	5%	1/4W
R408	1-247-812-11	CARBON	160	5%	1/4W
R409	1-247-903-00	CARBON	1M	5%	1/4W
R410	1-249-441-11	CARBON	100K	5%	1/4W
R411	1-249-441-11	CARBON	100K	5%	1/4W
		< SWITCH >			
S460	1-554-303-21	SWITCH, TACTILE (▶)			
S461	1-554-303-21	SWITCH, TACTILE (REPEAT)			
S462	1-554-303-21	SWITCH, TACTILE (TIME/MEMO)			
S463	1-554-303-21	SWITCH, TACTILE (OPEN/CLOSE)			
S476	1-554-481-00	SWITCH, SLIDE (TIMER)			
		< CERAMIC >			
X411	1-577-101-11	VIBRATOR, CERAMIC			

****

*	1-637-073-11	FUNCTION BOARD			
		**********			
*	4-941-258-01	HOLDER (LED/PA)			
*	4-941-259-01	HOLDER (LED/M)			
		< CONNECTOR >			
CN404	* 1-580-462-11	SOCKET, CONNECTOR 20P			
		< DIODE >			
D401	8-719-912-20	DIODE 1SS120			
D402	8-719-912-20	DIODE 1SS120			
D403	8-719-912-20	DIODE 1SS120			
D404	8-719-912-20	DIODE 1SS120			
D405	8-719-912-20	DIODE 1SS120			
D406	8-719-912-20	DIODE 1SS120			

FUNCTION HP LOADING

Ref.No.	Part No.	Description	Remark
D408	8-719-987-95	LED MPY3371X (C. INDEX)	
D409	8-719-987-97	LED BR3371X (PROGRAM)	
D410	8-719-971-52	LED MAY3371X-M-177 (SHUFFLE)	
D411	8-719-987-99	LED MGB3371X-14 (CONTINUE)	
D412	8-719-987-91	LED MAA3371X (FADER)	
		< TRANSISTOR >	
Q403	8-729-900-45	TRANSISTOR DTC114EF	
Q404	8-729-900-45	TRANSISTOR DTC114EF	
Q405	8-729-900-45	TRANSISTOR DTC114EF	
Q406	8-729-900-45	TRANSISTOR DTC114EF	
Q407	8-729-900-45	TRANSISTOR DTC114EF	
		< RESISTOR >	
R403	1-249-407-11	CARBON 150 5% 1/4W	
R404	1-249-442-11	CARBON 510 5% 1/4W	
R405	1-249-407-11	CARBON 150 5% 1/4W	
R406	1-249-407-11	CARBON 150 5% 1/4W	
R407	1-249-410-11	CARBON 270 5% 1/4W	
		< SWITCH >	
S400	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S401	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)	
S402	1-554-303-21	SWITCH, TACTILE (1)	
S403	1-554-303-21	SWITCH, TACTILE (2)	
S404	1-554-303-21	SWITCH, TACTILE (3)	
S405	1-554-303-21	SWITCH, TACTILE (4)	
S406	1-554-303-21	SWITCH, TACTILE (5)	
S410	1-554-303-21	SWITCH, TACTILE (SHUFFULE)	
S411	1-554-303-21	SWITCH, TACTILE (TIME SET)	
S412	1-554-303-21	SWITCH, TACTILE (6)	
S413	1-554-303-21	SWITCH, TACTILE (7)	
S414	1-554-303-21	SWITCH, TACTILE (8)	
S415	1-554-303-21	SWITCH, TACTILE (9)	
S416	1-554-303-21	SWITCH, TACTILE (10)	
S420	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S421	1-554-303-21	SWITCH, TACTILE (FADER)	
S422	1-554-303-21	SWITCH, TACTILE (11)	
S423	1-554-303-21	SWITCH, TACTILE (12)	
S424	1-554-303-21	SWITCH, TACTILE (13)	
S425	1-554-303-21	SWITCH, TACTILE (14)	
S426	1-554-303-21	SWITCH, TACTILE (15)	
S430	1-554-303-21	SWITCH, TACTILE (C. INDEX)	
S431	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)	
S432	1-554-303-21	SWITCH, TACTILE (16)	
S433	1-554-303-21	SWITCH, TACTILE (17)	
S434	1-554-303-21	SWITCH, TACTILE (18)	
S435	1-554-303-21	SWITCH, TACTILE (19)	
S436	1-554-303-21	SWITCH, TACTILE (20)	
S440	1-554-303-21	SWITCH, TACTILE (⏮)	
S441	1-554-303-21	SWITCH, TACTILE (⏭)	
S442	1-554-303-21	SWITCH, TACTILE (◀◀)	
S443	1-554-303-21	SWITCH, TACTILE (▶▶)	
S444	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S445	1-554-303-21	SWITCH, TACTILE (CHECK)	
S446	1-554-303-21	SWITCH, TACTILE (>20)	
S450	1-554-303-21	SWITCH, TACTILE (❚❚)	
S451	1-554-303-21	SWITCH, TACTILE (■)	
S452	1-554-303-21	SWITCH, TACTILE (FILE)	
S453	1-554-303-21	SWITCH, TACTILE (ERASE)	
S454	1-554-303-21	SWITCH, TACTILE (FILE RECALL)	
S455	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)	
S456	1-554-303-21	SWITCH, TACTILE (LEVEL FILE)	
**********			
*	1-637-070-11	HP BOARD	
		********	
		< CAPACITOR >	
C408	1-164-159-11	CERAMIC 0.1uF 50V	
C409	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C410	1-162-294-31	CERAMIC 0.001uF 10% 50V	
		< CONNECTOR >	
CN408 *	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< JACK >	
J479	1-568-519-41	JACK, LARGE TYPE	
		< COIL >	
L501 *	1-410-858-11	INDUCTOR	
L502 *	1-410-858-11	INDUCTOR	
L601 *	1-410-858-11	INDUCTOR	
		< RESISTOR >	
R522	1-249-402-11	CARBON 56 5% 1/4W	
R622	1-249-402-11	CARBON 56 5% 1/4W	
**********			
*	1-632-202-11	LOADING BOARD	
		**********	
		< CONNECTOR >	
CN301 *	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	

MC-Service

LOADING | MAIN

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S271	1-572-086-11	SWITCH, LEAF			
S272	1-572-086-11	SWITCH, LEAF			
**********					
*	A-4617-567-A	MAIN BOARD, COMPLETE			
		**********			
*	4-941-237-01	HEAT SINK			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C201	1-124-572-11	ELECT	100uF	20%	63V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-016-11	ELECT	4700uF	20%	16V
C205	1-126-016-11	ELECT	4700uF	20%	16V
C206	1-126-059-11	ELECT	10uF	20%	50V
C207	1-126-163-11	ELECT	4.7uF	20%	50V
C208	1-126-059-11	ELECT	10uF	20%	50V
C209	1-126-013-11	ELECT	1000uF	20%	16V
C210	1-126-013-11	ELECT	1000uF	20%	16V
C211	1-126-024-11	ELECT	220uF	20%	16V
C213	1-164-159-11	CERAMIC	0.1uF		50V
C214	1-126-024-11	ELECT	220uF	20%	16V
C215	1-125-622-11	CAP, DOUBLE LAYERS 0.10F			
C216	1-126-012-11	ELECT	470uF	20%	16V
C218	1-124-994-11	ELECT	100uF	20%	10V
C220	1-164-159-11	CERAMIC	0.1uF		50V
C221	1-162-286-31	CERAMIC	220PF	10%	50V
C225	1-130-491-00	MYLAR	0.047uF	5%	50V
C226	1-124-994-11	ELECT	100uF	20%	10V
C227	1-124-997-11	ELECT	470uF	20%	10V
C228	1-130-491-00	MYLAR	0.047uF	5%	50V
C229	1-124-994-11	ELECT	100uF	20%	10V
C231	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-124-994-11	ELECT	100uF	20%	10V
C305	1-164-159-11	CERAMIC	0.1uF		50V
C306	1-164-159-11	CERAMIC	0.1uF		50V
C307	1-136-161-00	FILM	0.047uF	5%	50V
C308	1-161-374-11	CERAMIC	0.0015uF	20%	50V
C309	1-162-306-11	CERAMIC	0.01uF	20%	16V
C310	1-126-043-11	ELECT	0.47uF	20%	50V
C311	1-126-163-11	ELECT	4.7uF	20%	50V
C312	1-162-290-31	CERAMIC	470PF	10%	50V
C313	1-124-994-11	ELECT	100uF	20%	10V
C314	1-136-165-00	FILM	0.1uF	5%	50V
C315	1-124-994-11	ELECT	100uF	20%	10V
C317	1-136-165-00	FILM	0.1uF	5%	50V
C318	1-136-165-00	FILM	0.1uF	5%	50V
C319	1-162-208-31	CERAMIC	24PF	5%	50V
C321	1-164-159-11	CERAMIC	0.1uF		50V
C332	1-162-205-31	CERAMIC	18PF	5%	50V
C501	1-136-165-00	FILM	0.1uF	5%	50V
C502	1-136-165-00	FILM	0.1uF	5%	50V
C503	1-124-994-11	ELECT	100uF	20%	10V
C504	1-124-994-11	ELECT	100uF	20%	10V
C505	1-136-165-00	FILM	0.1uF	5%	50V
C506	1-124-994-11	ELECT	100uF	20%	10V
C507	1-136-165-00	FILM	0.1uF	5%	50V
C508	1-136-165-00	FILM	0.1uF	5%	50V
C509	1-124-994-11	ELECT	100uF	20%	10V
C510	1-136-165-00	FILM	0.1uF	5%	50V
C511	1-124-994-11	ELECT	100uF	20%	10V
C512	1-136-165-00	FILM	0.1uF	5%	50V
C513	1-162-199-31	CERAMIC	10PF	5%	50V
C514	1-162-199-31	CERAMIC	10PF	5%	50V
C531	1-162-288-31	CERAMIC	330PF	10%	50V
C532	1-162-282-31	CERAMIC	100PF	10%	50V
C533	1-162-282-31	CERAMIC	100PF	10%	50V
C534	1-130-472-00	MYLAR	0.0012uF	5%	50V
C535	1-106-359-00	MYLAR	4700PF	5%	200V
C536	1-126-051-11	ELECT	47uF	20%	50V
C537	1-162-294-31	CERAMIC	0.001uF	10%	50V
C538	1-162-294-31	CERAMIC	0.001uF	10%	50V
C540	1-126-012-11	ELECT	470uF	20%	16V
C541	1-126-012-11	ELECT	470uF	20%	16V
C631	1-162-288-31	CERAMIC	330PF	10%	50V
C632	1-162-282-31	CERAMIC	100PF	10%	50V
C633	1-162-282-31	CERAMIC	100PF	10%	50V
C634	1-130-472-00	MYLAR	0.0012uF	5%	50V
C635	1-106-359-00	MYLAR	4700PF	5%	200V
C636	1-126-051-11	ELECT	47uF	20%	50V
C637	1-162-294-31	CERAMIC	0.001uF	10%	50V
C638	1-162-294-31	CERAMIC	0.001uF	10%	50V
C640	1-126-012-11	ELECT	470uF	20%	16V
C641	1-126-012-11	ELECT	470uF	20%	16V

< CONNECTOR >

CN220	*	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P
CN356	*	1-568-837-11	SOCKET, CONNECTOR 20P
CN357	*	1-564-711-11	PIN, CONNECTOR (SMALL TYPE) 9P
CN359	*	1-568-822-11	SOCKET, CONNECTOR 22P
CN360	*	1-568-955-11	PIN, CONNECTOR 6P

Ref.No.	Part No.	Description	Remark
		< DIODE >	
D201	8-719-200-02	DIODE 10E2	
D202	8-719-200-02	DIODE 10E2	
D203	8-719-200-02	DIODE 10E2	
D204	8-719-200-02	DIODE 10E2	
D205	8-719-200-02	DIODE 10E2	
D206	8-719-912-20	DIODE 1SS120	
D207	8-719-109-85	DIODE RD5.1ES-B2	
D209	8-719-110-08	DIODE RD8.2ES-B2	
D210	8-719-912-20	DIODE 1SS120	
D211	8-719-110-08	DIODE RD8.2ES-B2	
D212	8-719-114-27	DIODE RD4.7JS-B3	
D214	8-719-210-21	DIODE 11EQS04	
D225	8-719-934-31	DIODE HZS36-3L	
D322	8-719-912-20	DIODE 1SS120	
D501	8-719-912-20	DIODE 1SS120	
D513	8-719-114-27	DIODE RD4.7JS-B3	
D601	8-719-912-20	DIODE 1SS120	
		< IC >	
IC201	8-759-630-21	IC M5290P-16	
IC325	8-759-512-81	IC LH5160N-10L	
IC326	8-759-962-08	IC BA6208	
IC327	8-759-635-50	IC M37450M8-372FP	
IC328	8-752-337-26	IC CXD2500AQ	
IC329	8-759-917-18	IC SN74HCU04AN	
IC350	8-749-921-20	IC T-1550	
IC501	8-752-335-53	IC CXD2552Q-3	
IC502	8-752-328-61	IC CXD1244S	
IC503	8-752-339-86	IC CXD2557M	
IC504	8-759-982-03	IC RC5532DD	
IC505	8-759-981-85	IC RC4556D	
IC604	8-759-982-03	IC RC5532DD	
		< JACK >	
J361	* 1-569-443-11	JACK, PIN 4P	
		< COIL >	
L320	1-408-403-00	INDUCTOR 3.3uH	
		< TRANSISTOR >	
Q202	8-729-900-80	TRANSISTOR DTC114ES	
Q203	8-729-900-61	TRANSISTOR DTA114ES	
Q204	8-729-900-61	TRANSISTOR DTA114ES	
Q206	8-729-111-67	TRANSISTOR 2SB1094-L	
Q207	8-729-140-96	TRANSISTOR 2SD774-34	
Q208	8-729-140-96	TRANSISTOR 2SD774-34	
Q209	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q210	8-729-111-67	TRANSISTOR 2SB1094-L	
Q215	8-729-900-80	TRANSISTOR DTC114ES	
Q216	8-729-900-80	TRANSISTOR DTC114ES	
Q217	8-729-216-13	TRANSISTOR 2SK161GR	
Q218	8-729-905-67	TRANSISTOR 2SD1944-K	
Q222	8-729-900-80	TRANSISTOR DTC114ES	
Q223	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q224	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q323	8-729-900-80	TRANSISTOR DTC114ES	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-201-05	TRANSISTOR 2SC2878-B	
Q503	8-729-900-74	TRANSISTOR DTC143TS	
Q504	8-729-900-74	TRANSISTOR DTC143TS	
Q601	8-729-900-61	TRANSISTOR DTA114ES	
Q602	8-729-201-05	TRANSISTOR 2SC2878-B	
Q603	8-729-900-74	TRANSISTOR DTC143TS	
Q604	8-729-900-74	TRANSISTOR DTC143TS	
		< RESISTOR >	
R201	1-249-425-11	CARBON 4.7K 5% 1/4W	
R202	1-249-425-11	CARBON 4.7K 5% 1/4W	
R203	1-249-424-11	CARBON 3.9K 5% 1/4W	
R204	⚠ 1-212-869-00	FUSIBLE 33 5% 1/4W	F
R205	1-249-435-11	CARBON 33K 5% 1/4W	
R206	1-249-413-11	CARBON 470 5% 1/4W	
R207	1-249-429-11	CARBON 10K 5% 1/4W	
R208	1-249-425-11	CARBON 4.7K 5% 1/4W	
R209	1-249-437-11	CARBON 47K 5% 1/4W	
R213	1-249-417-11	CARBON 1K 5% 1/4W	
R214	1-249-417-11	CARBON 1K 5% 1/4W	
R215	1-249-429-11	CARBON 10K 5% 1/4W	
R216	1-249-417-11	CARBON 1K 5% 1/4W	
R219	1-249-393-11	CARBON 10 5% 1/4W	
R220	1-249-405-11	CARBON 100 5% 1/4W	
R221	1-249-406-11	CARBON 120 5% 1/4W	
R222	1-249-435-11	CARBON 33K 5% 1/4W	
R223	1-249-429-11	CARBON 10K 5% 1/4W	
R224	1-249-438-11	CARBON 56K 5% 1/4W	
R225	1-249-441-11	CARBON 100K 5% 1/4W	
R301	1-249-411-11	CARBON 330 5% 1/4W	
R302	1-249-429-11	CARBON 10K 5% 1/4W	
R304	1-249-429-11	CARBON 10K 5% 1/4W	
R305	1-249-429-11	CARBON 10K 5% 1/4W	
R306	1-249-429-11	CARBON 10K 5% 1/4W	

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN P.SW REMOTE

Ref. No.	Part No.	Description			Remark
R307	1-249-429-11	CARBON	10K	5%	1/4W
R308	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-429-11	CARBON	10K	5%	1/4W
R310	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-249-429-11	CARBON	10K	5%	1/4W
R314	1-249-429-11	CARBON	10K	5%	1/4W
R315	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R317	1-249-429-11	CARBON	10K	5%	1/4W
R318	1-249-429-11	CARBON	10K	5%	1/4W
R319	1-247-903-00	CARBON	1M	5%	1/4W
R320	1-249-417-11	CARBON	1K	5%	1/4W
R321	1-249-417-11	CARBON	1K	5%	1/4W
R322	1-249-417-11	CARBON	1K	5%	1/4W
R323	1-249-417-11	CARBON	1K	5%	1/4W
R324	1-249-417-11	CARBON	1K	5%	1/4W
R325	1-249-417-11	CARBON	1K	5%	1/4W
R329	1-249-411-11	CARBON	330	5%	1/4W
R330	1-249-417-11	CARBON	1K	5%	1/4W
R331	1-249-417-11	CARBON	1K	5%	1/4W
R332	1-249-417-11	CARBON	1K	5%	1/4W
R333	1-249-441-11	CARBON	100K	5%	1/4W
R334	1-249-429-11	CARBON	10K	5%	1/4W
R335	1-249-423-11	CARBON	3.3K	5%	1/4W
R336	1-249-423-11	CARBON	3.3K	5%	1/4W
R337	1-249-429-11	CARBON	10K	5%	1/4W
R339	1-249-409-11	CARBON	220	5%	1/4W
R341	1-249-413-11	CARBON	470	5%	1/4W
R342	1-249-417-11	CARBON	1K	5%	1/4W
R343	1-249-415-11	CARBON	680	5%	1/4W
R344	1-249-415-11	CARBON	680	5%	1/4W
R345	1-249-415-11	CARBON	680	5%	1/4W
R346	1-249-415-11	CARBON	680	5%	1/4W
R347	1-249-417-11	CARBON	1K	5%	1/4W
R348	1-249-428-11	CARBON	8.2K	5%	1/4W
R349	1-249-436-11	CARBON	39K	5%	1/4W
R350	1-249-428-11	CARBON	8.2K	5%	1/4W
R351	1-249-436-11	CARBON	39K	5%	1/4W
R501	1-215-443-00	METAL	8.2K	1%	1/6W
R502	1-215-436-00	METAL	4.3K	1%	1/6W
R503	1-215-443-00	METAL	8.2K	1%	1/6W
R504	1-215-436-00	METAL	4.3K	1%	1/6W
R505	1-215-451-00	METAL	18K	1%	1/6W
R506	1-215-451-00	METAL	18K	1%	1/6W
R507	1-249-419-11	CARBON	1.5K	5%	1/4W
R508	1-249-419-11	CARBON	1.5K	5%	1/4W
R509	1-249-409-11	CARBON	220	5%	1/4W
R510	1-247-891-00	CARBON	330K	5%	1/4W
R511	1-249-409-11	CARBON	220	5%	1/4W
R512	1-249-393-11	CARBON	10	5%	1/4W
R513	1-249-409-11	CARBON	220	5%	1/4W
R515	1-249-409-11	CARBON	220	5%	1/4W
R518	1-249-435-11	CARBON	33K	5%	1/4W
R519	1-249-435-11	CARBON	33K	5%	1/4W
R520	1-249-425-11	CARBON	4.7K	5%	1/4W
R521	1-249-435-11	CARBON	33K	5%	1/4W
R523	1-247-848-11	CARBON	5.1K	5%	1/4W
R524	1-249-405-11	CARBON	100	5%	1/4W
R601	1-215-443-00	METAL	8.2K	1%	1/6W
R602	1-215-436-00	METAL	4.3K	1%	1/6W
R603	1-215-443-00	METAL	8.2K	1%	1/6W
R604	1-215-436-00	METAL	4.3K	1%	1/6W
R605	1-215-451-00	METAL	18K	1%	1/6W
R606	1-215-451-00	METAL	18K	1%	1/6W
R607	1-249-419-11	CARBON	1.5K	5%	1/4W
R608	1-249-419-11	CARBON	1.5K	5%	1/4W
R609	1-249-409-11	CARBON	220	5%	1/4W
R610	1-247-891-00	CARBON	330K	5%	1/4W
R611	1-249-409-11	CARBON	220	5%	1/4W
R612	1-249-393-11	CARBON	10	5%	1/4W
R613	1-249-409-11	CARBON	220	5%	1/4W
R615	1-249-409-11	CARBON	220	5%	1/4W
R618	1-249-435-11	CARBON	33K	5%	1/4W
R619	1-249-435-11	CARBON	33K	5%	1/4W
R620	1-249-425-11	CARBON	4.7K	5%	1/4W
R621	1-249-435-11	CARBON	33K	5%	1/4W

< CRYSTAL >

X355	1-579-175-11	VIBRATOR, CERAMIC			
X501	1-579-161-11	VIBRATOR, CRYSTAL			

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* 1-637-071-11 P.SW BOARD
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< SWITCH >

S475	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)			

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* 1-637-069-11 REMOTE CONTROL BOARD
****

< CAPACITOR >

C405	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN477	* 1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P	
CN478	* 1-568-955-11	PIN, CONNECTOR 6P	
		< VARIABLE RESISTOR >	
RV405	1-241-304-11	RES, VAR, CARBON 10KX3 (LINE OUT, PHONE LEVEL)	
		**********	
		MISCELLANEOUS	
		**********	
19	1-535-874-11	JUMPER, FILM (WITH TERMINAL)	
20	1-590-217-11	WIRE, FLAT TYPE (20 CORE)	
60	⚠ 1-558-945-21	CORD, POWER (POLAR, SPT-1) (US, Canadian)	
	⚠ 1-558-946-21	CORD, POWER (POLAR, SPT-1) (UK)	
	⚠ 1-574-358-31	CORD, POWER (WITH CONNECTOR) (AUS)	
	⚠ 1-575-651-21	CORD, POWER (AEP)	
	⚠ 1-575-653-21	CORD, POWER (E)	
64	1-575-002-11	WIRE, FLAT TYPE (22 CORE)	
69	⚠ 1-569-007-11	ADAPTOR, CONVERSION 2P (E)	
311	* 1-452-538-11	MAGNET	
355	⚠ 8-848-144-11	DEVICE, OPTICAL KSS-240A	
358	1-575-001-11	WIRE, FLAT TYPE (12 CORE)	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M191	A-4604-363-A	MOTOR (L) ASSY	
S221	⚠ 1-571-722-11	SWITCH, VOLTAGE SELECTION (VOLTAGE SELECTOR) (E)	
T201	⚠ 1-449-921-11	TRANSFORMER, POWER (US, Canadian)	
	⚠ 1-449-922-11	TRANSFORMER, POWER (AEP, UK, AUS)	
	⚠ 1-449-923-11	TRANSFORMER, POWER (E)	
		**********	
		ACCESSORY & PACKING MATERIAL	
		**********	
	1-465-593-11	COMMANDER, REMOTE (RM-D991)	
	1-559-533-11	CORD, CONNECTION	
	* 3-704-343-01	SHEET (STANDARD), PROTECTION	
	3-707-584-01	COVER, BATTERY (for RM-D991)	
	3-752-357-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE) (Canadian, AEP, UK, E)	
	3-752-357-21	MANUAL, INSTRUCTION (ENGLISH) (US, AUS)	
	3-752-357-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN) (AEP)	
	* 3-795-629-11	INSTRUCTION (AEP)	
	* 4-934-088-01	CUSHION	
	* 4-942-117-11	INDIVIDUAL CARTON	

HARDWARE LIST

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Ref. No.	Part No.	Description	Remark
# 1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
# 2	7-682-548-09	SCREW +BVTT 3X8 (S)	
# 3	7-685-870-01	SCREW +BVTT 3X5 (S)	
# 4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
# 5	7-682-548-04	SCREW +BVTT 3X8 (S)	
# 6	7-621-775-10	SCREW +B 2.6X4	
# 7	7-685-134-19	SCREW +BTP 2.6X8 TYPE2 N-S	
# 8	7-621-255-15	SCREW +P 2X3	

Note:
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Replace only with part number specified.

Note:
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Ne les remplacer que par une pièce portant le numéro spécifié.